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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,535

06/24/2005

Satoru Mima

124486

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05/17/2006

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EXAMINER

CINTINS, IVARS C

ART UNIT

PAPER NUMBER

1724

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/540,535

Applicant(s)

MIMA ET AL.

Examiner

Ivars C. Cintins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/25/2006.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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Figure 2 in the replacement sheet filed February 27, 2006 is objected to because it is not clear what is meant by the legend "RELATED ART." If Applicant is attempting to acknowledge that the system shown in this drawing figure is admittedly known, then the legend "Prior Art" must be used. See M.P.E.P. § 608.02(g)).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are again rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-263039 A. As pointed out in the previous Office action, the reference discloses adding an aqueous suspension of activated carbon having the recited particle size and concentration to impure water (see lines 7 and 9 of the abstract), and this is all that is required by claims 1 and 2. The activated carbon of the reference is inherently capable of being produced by wet milling, and this is all that is required by the term "obtainable."

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 7 are again rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-263039 A in view of Hatano et al. (U.S. Patent No. 6,602,816). As pointed out in the previous Office action, JP 2000-263039 A discloses the claimed

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invention with the exception of the recited milling machine. Hatano et al. discloses adjusting the particle size of an adsorbent material (clay) by wet milling (see col. 8, lines 9-12); and it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the milling machine of the secondary reference for the particle size reducing device (i.e. ultrasonic wave unit) of the primary reference, since this secondary reference milling machine is capable of reducing the size of a particulate adsorbent material in substantially the same manner as the particle size reducing of the primary reference, to produce substantially the same results. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach this milling machine to a passage or tank of the water to be treated, in order to eliminate any transportation costs associated with bringing the activated carbon to its intended location.

Claims 4 and 5 are again rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-263039 A in view of JP 10-309567 A. As pointed out in the previous Office action, JP 2000-263039 A discloses the claimed invention with the exception of the recited membrane separation treatment. JP 10-309567 A discloses a similar process for purifying water with superfine powdery activated carbon, and further teaches subjecting the activated carbon containing water to membrane separation treatment, in order to remove the activated carbon from the treated water. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the primary reference with the membrane separator of the

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secondary reference, in order to obtain the advantages disclosed by this secondary reference for the system of the primary reference.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-263039 A and JP 10-309567 A as applied above, and further in view of Hatano et al. As pointed out in the previous Office action, the modified primary reference discloses the claimed invention with the exception of the recited milling machine. Hatano et al. discloses adjusting the particle size of an adsorbent material by wet milling; and it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the milling machine of the secondary reference for the particle size reducing device of the modified primary reference, since this milling machine is capable of reducing the size of a particulate adsorbent material in substantially the same manner as the particle size reducing of the modified primary reference, to produce substantially the same results. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach this milling machine to a passage or tank of the water to be treated, in order to eliminate any transportation costs associated with bringing the activated carbon to its intended location.

Applicant's arguments filed February 27, 2006 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that JP 2000-263039 does not disclose adding activated carbon having an average particle size of 0.1 μm to 10 μm to water to be treated. It is pointed out, however, that this reference clearly discloses adding a suspension of water and activated carbon to "dirty

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water" (i.e. water to be treated), and further teaches that the activated carbon can have an average particle size between 10 μm and 20 μm . Accordingly, when this activated carbon has an average particle size of 10 μm , it clearly reads on the average particle size range recited in claim 1.

Applicant also argues that JP 2000-263039 does not disclose crushing active carbon *in situ* in a water treatment plant. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that neither claim 1 nor claim 2 requires activated carbon to be crushed in a water treatment plant; and therefore, the fact that this reference may not teach such a processing step is not deemed to be relevant to the rejection of these two claims based on JP 2000-263039 alone. As for claims 3 and 6, which claims recite a milling machine "installed by attaching to a passage of the water to be treated or to a tank reservoiring water to be treated," Applicant should note that Hatano et al. discloses adjusting the particle size of an adsorbent material by wet milling. Accordingly, one of ordinary skill in the water purification art, upon viewing the teaching of this secondary reference, would have been motivated substitute a milling machine for the ultrasonic wave unit of the primary reference, as explained above. Also, it would have been obvious to this skilled artisan to attach this milling machine to a passage or tank of the water to be treated, in order to eliminate any transportation costs associated with bringing the activated carbon to its intended location.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is 571-272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at 571-272-1166.

The centralized facsimile number for the USPTO is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
May 14, 2006